

**Regional Training Course on Drug and Therapeutics Committees
and
Training of Trainers**

**29th August – 11th September, 2004
Kampala, Uganda**

Trip Report

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October 2004

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Abstract

Irrational drug use is a global problem, both in institutional and community settings. The first and the second International Conference on Improving Use of Medicines (ICIUM 1997 and 2004) recommended Drug and Therapeutics Committees (DTCs) as a method of improving drug use in institutional settings. DTCs are also considered a key intervention in the World Health Organization (WHO) Global Strategy to contain antimicrobial resistance. Accordingly, Rational Pharmaceutical Management Plus (RPM Plus) program of Management Sciences for Health (MSH) has been collaborating with the WHO and other partners to provide training courses on DTCs in developing countries. With USAID support, RPM Plus has recently developed a Training of Trainers (TOT) Course to complement the existing DTC course. The TOT component was implemented this year along with a regular DTC course in Uganda. The course was held in Kampala from August 29 through September 11, 2004 and was co-organized by the Ministry of Health/Uganda, Makerere University, and RPM Plus in collaboration with WHO/Essential Drugs and Medicines Policy (EDM) and International Network for Rational Use of Drugs (INRUD)/Uganda. Thirty-eight participants from 11 countries attended this regional course. The report details the activities during the course, including those of the MSH staff Mohan Joshi, Paul Arnow and Sarah Paige, who went to Kampala to facilitate the process.

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Acronyms

AMR	Antimicrobial Resistance
ARCH	Applied Research for Child Health
DANIDA	Danish International Development Agency
DAP	Action Programme on Essential Drugs
DTC	Drug and Therapeutics Committee
EDM	Essential Medicines and Policy Program (WHO)
EMRO	Regional Office for the East Mediterranean (WHO)
ERC	Electronic Resource Center
ICIUM	(First) International Conference on Improving Use of Medicines
INRUD	International Network for Rational Use of Drugs
KSA	Knowledge, Skills and Attitude
MOH	Ministry of Health
MSH	Management Sciences for Health
PHNO	Population, Health and Nutrition Officer
RPM Plus	Rational Pharmaceutical Management Plus Program (MSH)
SEAM	Strategies for Enhancing Access to Medicines (MSH)
TOT	Training of Trainers
USAID	United States Agency for International Development
VEN	Vital, Essential, Non-Essential
WHO	World Health Organization

Background

Infectious diseases continue to present a serious threat to countries worldwide where scarcity of resources is complicated by lack of drug availability and inappropriate use of the available drugs. Antimicrobial resistance (AMR) develops as a result of inappropriate prescribing and use of antimicrobials. RPM Plus, in collaboration with the World Health Organization (WHO) and other partners, has been working in developing countries to provide trainings on Drug and Therapeutics Committees (DTCs) as a method of managing the selection of appropriate drugs and improving drug use. These committees serve as a means to improve drug selection, prescribing, and use and to decrease or contain the spread of antimicrobial resistance. DTCs are considered a key intervention in the WHO Global Strategy to contain antimicrobial resistance in hospitals. The Second International Conference on Improving Use of Medicines (ICIUM 2004) recommended that DTCs be established at all levels in institutional settings to assist efforts to improve use of medicines and contain cost.

The First ICIUM, held in 1997, recommended that Drug and Therapeutics Committee training materials be developed to improve the drug management functions of this committee. DTCs have been in existence for many years, but their effectiveness in improving drug use in most settings is lacking. Training materials to increase capacity and improve outcomes from the DTC were not available at the time of the conference. As a result, RPM Plus developed and subsequently, implemented these training materials to improve DTCs in developing countries.

The DTC training materials were developed by May 2000. A field test of the materials was accomplished in June 2000 in Bangkok, Thailand. The training materials and technical assistance from RPM Plus staff was utilized to assist a local MSH program to present the training materials in Manila, Philippines in February 2001. In June 2001, RPM Plus and WHO presented the first international course on Drug and Therapeutics Committees in Yogyakarta, Indonesia. Since February 2001, a total of 14 DTC courses have been organized, with 464 participants from 67 different countries. Courses have been given in Bolivia, Guatemala, India, Indonesia, Jordan, Kenya, Moldova, Nepal, Nicaragua, Peru, the Philippines, South Africa, Turkey, and Uganda. There remains a need to carry out more DTC courses in order to reach a critical mass of qualified individuals and improve the effectiveness of existing committees.

RPM Plus has recently developed a Training of Trainers (TOT) Course to complement the existing DTC course. The purpose of this additional initiative is to build local, national, and regional capacities to not only establish effectively functioning DTCs but also organize local DTC training programs and provide follow-up technical assistance. This activity will contribute to USAID/RPM Plus's recent effort towards strengthening the concept of Regional Pharmaceutical Management Technical Resources Collaboration.

A training course, that combined both the regular DTC component and the newly added TOT component, was held in Uganda from August 29 to September 11, 2004. It was organized by the Makerere University Faculty of Medicine, Uganda Ministry of Health,

and Rational Pharmaceutical Management Plus (RPM Plus) Program of Management Sciences for Health (MSH) in collaboration with the WHO Department of Essential Drugs and Medicines Policy and INRUD–Uganda. The course was supported by U.S. Agency for International Development (USAID). This was the first regional DTC course accompanied by a 2 ½ day TOT component. The course announcement appears as Annex 1. The present report details the course activities.

Purpose of Trip

Mohan Joshi, Paul Arnow and Sarah Paige traveled to Kampala, Uganda to help conduct the Regional Training Course on Drug and Therapeutics Committees and Training of Trainers held in Kampala from August 29 to September 11, 2004. Dr. Joshi arrived in Kampala on August 24 from Zambia, where he had been working on another project in the AMR portfolio. He departed Kampala on September 11, 2004. Dr. Arnow arrived in Kampala on August 30 and departed on September 13, 2004, and Ms. Paige arrived in Kampala on August 25 and departed on September 27, 2004. Request for Country Clearance (RFCC) detailing the anticipated contacts, travel and lodging logistics and funding source can be found in Annex 2

Scope of Work

Scope of Work for the team was as follows:

Dr. Mohan Joshi

- As RPM Plus DTC-TOT Activity Manager, coordinate the technical aspects and the overall management of the training course along with the Organizing Committee in Uganda
- Act as a key international facilitator for some of the DTC and TOT sessions in the course
- Participate in the field trip and help participants collect, compile, analyze and present their data
- Brief and debrief the Mission, if requested

Dr. Paul Arnow

- Act as a key international facilitator for some of the DTC and TOT sessions in the course
- Participate in the field trip and help participants collect, compile, analyze and present their data
- Brief and debrief the Mission, if requested

Sarah Paige

- Assist in the organizational, administrative, and technical aspects of the training course along with the RPM Plus DTC-TOT Activity Manager and the Organizing Committee in Uganda

- Assist in the facilitation of some of the sessions in the course
- Participate in the field trip and help participants collect, compile, analyze and present their data
- Brief and debrief the Mission, if requested

Activities

Upon arrival in Kampala, Mohan Joshi and Sarah Paige reviewed logistical arrangements and course materials in collaboration with the organizing committee and Secretariat. Throughout the course Mohan Joshi and Sarah Paige continued to coordinate the technical and logistical needs to ensure a smooth operation. Paul Arnow provided technical support. Technical and logistical activities were carried out in conjunction with the local organizers. Such activities included a wide range of planning steps such as continued contracting with the venue, setting up and arranging of the course hall, verifying and updating course materials, etc. In addition to performing overall course staging activities, Dr. Joshi, Ms. Paige, and Dr. Arnow were featured as facilitators in the course.

The course consisted of interactive presentations by facilitators, discussions, small group activities, facilitation practice by participants, field study, and workplan development. The DTC component of the course consisted of 10 days of training on the roles and functions of Drugs and Therapeutics Committees. The key features included formulary management; assessing drug efficacy, safety and quality; the development and implementation of standard treatment guidelines; identifying and understanding drug use problems; strategies to improve drug use; and the practical aspects of operating a DTC. The Training of Trainers component was held over 2 ½ days and the key features included adult learning, the role of teacher, communication skills, teaching and learning methods, and DTC-related presentation and facilitation skills. A separate detailed report on the TOT component of the course is being prepared.

Presentation and facilitation of the DTC component of the course was distributed among the RPM Plus/MSH, WHO, and local facilitators. The presentation and facilitation of the TOT component was carried out by MSH facilitators - Mohan Joshi and Paul Arnow.

Mohan Joshi, in cooperation with the local organizing committee from Makerere University, co-directed the course. He served as a primary facilitator for presentations and activities throughout the DTC and TOT components of the course. He facilitated the following sessions: Gallery of Experts, Assessing and Managing Drug Safety, DTC Workplanning Session, Field Study, Positive and Negative Learning Experiences, How Adults Learn, Teaching and Learning Methods, Teaching and Learning Methods: Illustrative Exercises (role play, case study, and demonstration), Setting Objectives, Presentation/Facilitation exercise, TOT Workplanning Session, and Course Wrap-up.

Paul Arnow served as a facilitator of sessions in both the DTC and TOT portions of the course. He was a contributor and facilitator for many of the group discussions and

activities. Dr. Arnow facilitated the following sessions: Assessing Drug Costs, Standard Treatment Guidelines, Infection Control, Field Study, DTC Workplanning Session, Preferred Learning Styles, Role of the Teacher, Communication Skills, Teaching and Learning Methods (role play, case study, demonstration), and Presentation Techniques.

Sarah Paige assisted in organizational, administrative, and technical aspects of the training course. She also facilitated the establishment of participant committees (evaluation, administration, social) in collaboration with Drs. Celestino Obua and Paul Waako, and worked daily with the evaluation committee to collect and analyze results which were shared with the participants the following day. She also participated in the Field Study as a facilitator.

Other international facilitators included:

- *Dr. Kathy Holloway* of the WHO/EDM. She facilitated sessions on Identifying Drug Use Problems (part 1), Strategies to Improve Drug Use, Drug Use Evaluation, Getting Started, Field Study, and Field Study Presentations
- *Professor David Ofori-Adjei* of the University of Ghana. He facilitated the following sessions: DTC Overview, Assessing Drug Efficacy, Identifying Drug Use Problems (part 2), Why Drug Use Problems Occur, and Field Study

Local facilitators included:

- *Professor Willy Anokbonggo* of Makerere University and INRUD-Uganda. He facilitated sessions on Formulary Management, Identifying Drug Use Problems (part 1), Drug Use Evaluation, and Field Study
- *Mr. Martin Oteba* of the Uganda Ministry of Health. He facilitated the session – DTC Overview
- *Dr. Jasper Ogwal-Okeng*, former head of the Department of Pharmacology and Therapeutics, Faculty of Medicine at Makerere University. He facilitated sessions on Assessing Drug Efficacy and Strategies to Improve Drug Use
- *Richard Odoi-Adome*, of Makerere University. He facilitated sessions on Drug Quality, Identifying Drug Use Problems (part 2), and Field Study
- *Dr. Celestino Obua* of Makerere University and INRUD-Uganda. He facilitated the opening session on establishing participant committees and ground rules. He also served as the Master of Ceremony for both the opening and closing ceremonies
- *Dr. Paul Waako* Head of the Department of Pharmacology and Therapeutics, Faculty of Medicine, Makerere University. He introduced the course, contributed substantially to organizing the field study, and served as the course contact person throughout

Ms. Rebecca Mutepwke, assisted by John Paul, provided administrative and secretarial support before and during the course.

A list of facilitators and their contact information is in Annex 3. Sessions were frequently led by both an international and a local facilitator. See Annex 4 for the training program session and facilitator schedule.

Participant Field Studies

An important activity in the DTC course that is meant to solidify the concepts and exercises presented and practiced in the initial stages of the course is the field study. Participants were grouped according to their professional background and experience, and sent to local hospitals and health facilities to collect data on hospital DTCs, drugs used for a particular condition, general consumption data for a particular drug, and outpatient prescription indicators.

Contacts were established with and permissions obtained from five hospitals for the field study – Rubaga, Mengo, Mulago, Nsambya and Entebbe hospitals. Two facilitators accompanied groups of 7 or 8 participants at each field site. A backup hospital was identified (Kibuli) in case the need arose to modify the field sites. An instruction sheet was prepared to guide the field visit (Annex 5). At each hospital information on the structure, functions and accomplishments of the hospital DTCs was collected through an interview with either the chief pharmacist or the DTC chairperson. Two drug use evaluations were also conducted. One was on the pattern of antibiotic prophylaxis for caesarean section and the other on the pattern of use of ciprofloxacin amongst in-patients. Additionally, twenty prescriptions were reviewed at the hospital dispensary to analyze the outpatient prescribing patterns using WHO/INRUD drug use indicators.

After the data were collected the participants reassembled in the afternoon to aggregate and analyze their data and then prepare a presentation to share their findings. The next morning each of the five groups presented their findings in the plenary. Each presentation was followed by question-answer and discussion. Representatives of some of the hospitals came to the course venue to listen to the findings about their hospitals.

Course Evaluations

The DTC-TOT course was judged to be successful based on evaluations, participant comments and involvement during the course. Written evaluations of each session and an overall evaluation of each component of the course were obtained. Utilizing a scale of 1 to 9 in which 1 signified very poor and 9 signified excellent, the DTC course sessions received average scores of 7.4 to 8.5. Eleven out of 14 sessions received scores of 8.0 or above. The overall course evaluation averaged 8.1 with many favorable comments. At the end of the DTC portion of the course an evaluation was distributed asking participants to rate and comment on the course up to that point. It included questions related to course content, facilitators, and logistics. Participants rated the content of the DTC course 8.3, facilitators 8.1, and logistics (pace, style, format and materials) 7.8. The majority found the length of the course was appropriate. Several participants suggested that the course would benefit from more practical exercises; fewer lectures; the provision of laptop computers; more exercises on Drug Use Evaluations, ABC analysis, and Vital, Essential, Non-essential (VEN) analysis; more hospital-level examples of the technical DTC aspects; a network for tracking the improvements made to the course. Also a suggestion

was made to hold a 2-day meeting in 12 months in order to evaluate progress on workplan activities. See Annex 6 for a summary of individual session evaluations and overall course evaluation.

An evaluation of the TOT course was carried out at the conclusion of the TOT work. As this was the first regional DTC course with a TOT component, the participant evaluations will provide valuable insights towards improving the content and context of the TOT sessions. Scoring was on a scale of 1 – 5 (poor to excellent, respectively). Educational aspects of the TOT course were rated at 4.3 out of 5. The length was “just right” for 19 respondents and “too short” in 11 incidences. Part II of the evaluation aimed to capture responses to the course content. Overall the course content scored 4.2 out of 5. Annex 7 provides a detailed analysis of the participant responses. Recommendations to improve the TOT included designing sessions with incentives or prizes for activities, providing opportunities to those with little facilitation or training experience to master the basic techniques, allowing participants more time to practice one lesson before another is undertaken, and building participant facilitator self-confidence.

The final portion of the evaluation form, Part IV captures the overall administrative aspects of the DTC/TOT course combined. This included questions regarding the training room, accommodations, food, and transportation. Overall the score was 3.9 out of 5.

Course Participants

A total of 38 participants attended the course. One participant attended only the first week of the course. . Eleven countries were represented. Those countries included Nigeria, Iran, India, Nepal, Uganda, Rwanda, Ghana, Kenya, Sudan, Zambia, and Namibia.

The participants’ professional profiles were well mixed. Fifteen of the participants were medical doctors, 20 were pharmacists, and three were pharmacy technicians. Many held high level positions in their facilities and/or were active in their facilities’ DTCs. Full participant profiles and contact information is located in Annex 8. Photos of course participants can be found in Annex 9.

Funding was leveraged from a variety of sources to support participants. The AMR Portfolio of RPM Plus supported 8 participants, the MSH/Namibia country office sent 3, the MSH/Rwanda office supported 2, the Ministry of Health (MOH)/Uganda and the Danish International Development Agency (DANIDA) supported 7, the MOH/Uganda and World Health Organization (WHO) Country Office supported 4, WHO/Regional Office for the Eastern Mediterranean (EMRO) supported 4, the MSH/Zambia office sent 2, and the Strategies for Enhancing Access to Medicines (SEAM) project at MSH sent 5. Another Nigerian participant secured funding from the Carnegie Foundation and his home institution, the University of Jos. One participant was supported by Kampala City Council and one by Apollo Hospital, India.

Workplans

The training program's goal is to capacitate participants to develop and implement programs to improve DTC programs in their respective health care facilities/institutions. A monitoring and follow-up component in the form of a workplan has been built into this training program to help track the work progress that participants at their home DTC or administrative position have accomplished. Both DTC-specific and DTC Training workplans were developed by the participants during the course and will be posted on the DTC website. See Immediate Follow-up Activities for more information. MSH expects to follow up and provide technical assistance where possible via the DTC web site and through e-mail, telephone, or fax.

Materials Distributed

Given the TOT emphasis placed on this DTC course, a significant amount of material was distributed to the course participants to prepare them as future facilitators. These included hard copies of the DTC course materials (participant guide, trainers' guide, PowerPoint presentation slides) and the TOT course materials (participant handouts, trainers' guide, and PowerPoint slides). Also a CD containing the complete set of DTC and TOT course materials, addresses and photos of participants and facilitators, and several relevant WHO publications was distributed to each participant. Additionally, hard copies of other WHO publications and the 1997 edition of Managing Drug Supply were distributed.

Opening and Certificate Distribution Ceremonies

The Chief Guest for the Opening Ceremony of the Course was the Vice Chancellor of Makerere University, Professor Livingstone Luboobi. The Chief Guest for the Certificate Distribution Ceremony was Professor Oladapo WALKER, WHO Representative, Uganda.

Collaborators and Partners

RPM Plus collaborated with the following organizations and individuals in the preparation of the course materials, facilitation activities, and the organization/implementation of the training course.

- Dr. Paul Waako, Department of Pharmacology and Therapeutics, Faculty of Medicine, Makerere University
- Professor Jasper Ogwal-Okeng, Dean of the Faculty of Medicine, Gulu University
- Professor Willy Anokbonggo, Department of Pharmacology and Therapeutics, Faculty of Medicine, Makerere University and INRUD-Uganda
- Dr. Celestino Obua, Department of Pharmacology and Therapeutics, Faculty of Medicine, Makerere University

- Dr. Winnie Tumwikirize, Department of ENT and Department of Pharmacology and Therapeutics, Faculty of Medicine, Makerere University
- Dr. Richard Odoi-Adome, Department of Pharmacy, Faculty of Medicine, Makerere University
- Martin Oteba, MOH, The Republic of Uganda
- Dr. Kathy Holloway, Department of Essential Drugs and Medicines Policy, WHO
- Professor David Ofori-Adjei, University of Ghana
- Dr. Chris Forshaw, MOH/DANIDA
- Mr. Joseph Serutooke, WHO Country Office, Uganda
- Professor Livingstone Luboobi, Vice Chancellor, Makerere University
- Professor Oladapo WALKER, WHO Representative, Uganda

Next Steps

Immediate Follow-up Activities

- Brief workplans were developed and written by the participants during the course. The immediate next step is to have the workplans transcribed and placed onto the DTC Web site (<http://erc.msh.org/dtc>). The website serves as an on-line community, for participants to share their progress. The participants will be notified once their workplans have been posted, and will be asked to provide updates towards the progress on the implementation of the workplans.
- A course summary will be submitted for inclusion in the upcoming issue of the *INRUD News*. A report on both the DTC and TOT components of the course will also be posted on the DTC website.
- A separate TOT report will be prepared to provide detailed documentation of the “process” of how this component of the course was conducted.

Recommendations

1. Continue follow-up of participants of this course via DTC website, e-mail, and other means of communication and provide technical assistance, when necessary and feasible
2. Maintain contact with Makerere colleagues to follow up on their future DTC- and TOT-related plans and also possibility of obtaining their support in providing

technical assistance when required

3. Update the AMR page of the RPM Plus website with recent accomplishments, including information on the 2004 DTC-TOT course in Uganda
4. Organize another international/regional DTC/TOT course in workplan year 5 (October 2004 – September 2005)
5. Continue efforts to refine the TOT materials and to update the DTC course content

Agreement or Understandings with Counterparts

RPM Plus and WHO will continue to collaborate on the presentation of DTC courses.

Annex 1. Course Announcement



Announcing the Regional Training Course on

Drug & Therapeutics Committees and Training of Trainers

August 29 to September 11, 2004

Kampala, Uganda

The Department of Pharmacology and Therapeutics and the Department of Pharmacy at the Faculty of Medicine, Makerere University, Uganda will host a Regional Training Course on Drug and Therapeutics Committees and Training of Trainers from August 29 to September 11, 2004 in Kampala, Uganda. The course is organized by the Makerere University Faculty of Medicine, Uganda Ministry of Health, and Rational Pharmaceutical Management Plus (RPM Plus) Program of Management Sciences for Health (MSH) in collaboration with the WHO Department of Essential Drugs and Medicines Policy and INRUD–Uganda.



Supported by the US Agency
for International Development

Who Should Attend?

The course is designed for physicians, pharmacists, and health officials in hospitals, ministries of health, universities or private organizations. Those interested in improving formulary management and promoting rational use of drugs through drug and therapeutics committees (DTCs) and are in a position to provide training and technical assistance to other DTCs, are invited to apply. Candidates with some experience with drug and therapeutics committees, who wish to expand their knowledge of drug management and train others back in their country/region, are preferred.

Course Focus

The training course will focus on the role of the drug and therapeutic committee and the practical approaches available in promoting rational use of drugs. Key features will include –

- Formulary management
- Standard treatment guidelines
- Essential drug list
- Indicators of drug use
- Interventions to change inappropriate drug use
- Practical aspects of running a DTC

The last three days of the course will focus on training of the trainers (TOT) aspects and is designed to help the participants to better prepare themselves to provide DTC-related training to others in their respective countries and regions. Key features of the TOT component will include–

- Adult learning
- Role of teacher
- Communication skills
- Teaching and learning methods
- DTC-related presentation and facilitation skills

Design and Methods

The highly participatory course will be conducted in English and will consist of –

- Presentations
- Discussions
- Small group activities
- Field visits

The DTC training will be based on materials developed by MSH, in collaboration with WHO and will allow for the exchange of experiences and ideas among participants, adding depth to the learning process. This will expose participants to a wide range of

international experiences and materials. The TOT training will be based on the materials recently developed by MSH. The course materials will emphasize —

- Identifying and understanding drug use problems
- Formulary management and standard treatment guidelines
- Assessing drug efficacy, safety, quality
- Cost evaluation of formulary drugs
- Drug utilization review
- Strategies to improve drug use
- Structure and function of a DTC
- Infection control
- Monitoring and evaluating a DTC
- Local hospital field study
- Adult learning and teaching learning methods
- Communication, presentation and facilitation skills

Faculty

A team of experts from RPM Plus/MSH, WHO and Makerere University School of Medicine will serve as trainers. They include —

Dr. Mohan P. Joshi is Project Manager for Antimicrobial Resistance (AMR) at the Rational Pharmaceutical Management Plus (RPM Plus) Program of the MSH Center for Pharmaceutical Management. He has his first degree in medicine and post-graduate degrees in clinical pharmacology and pharmacology. Dr. Joshi has more than 20 years of professional experience and was working as Assistant Dean, Professor & Head of Clinical Pharmacology, and Director of Drug Information Center at the Tribhuvan University Institute of Medicine in Nepal prior to joining the MSH. Dr. Joshi has served as a member of the International Health Expert Advisory Panel of the U.S. Pharmacopeia. He has coordinated and facilitated many training courses on rational drug use.

Dr. Patricia Paredes is a Regional Project Manager for RPM Plus/MSH. She has more than 18 years experience working on community health programs around the world. Before joining MSH, she worked with the Institute of Nutritional Research in Peru, at the Ministry of Health, the Center for Communications Programs at Johns Hopkins University, and the Institute of Reproductive Health at Georgetown University. At MSH, she provides technical assistance to programs in Latin America and the Caribbean by: collaborating on Regional Initiatives addressing Malaria, Tuberculosis, Antimicrobial Resistance, and Health Sector Reform; conducting pharmaceutical sector analysis; supporting initiatives to improve the use of medicines; and conducting trainings in the rational use and management of drugs.

Dr. Kathleen Holloway is a medical officer with EDM/WHO in Geneva. Her present responsibility is the promotion of the rational use of drugs at both global and country

levels, and she is actively involved in training programs, research, and capacity building in this area. Her professional experience includes 10 years as a clinician in the UK National Health Service, 10 years working in Asia in both clinical medicine and public health, and 5 years working in international health. She spent 1991–1998 in Nepal managing an essential drugs program and she conducted research into the effects of user fees on rational drug use. Dr. Holloway is particularly interested in financial mechanisms to promote more rational use of drugs and in containing antimicrobial resistance.

Dr. Jasper Ogwal-Okeng is an Associate Professor and Head of Pharmacology and Therapeutics, Makerere University. He is very active in research and other activities aimed at improving the use of medicines in Uganda. Dr Ogwal-Okeng has facilitated several seminars and workshops on improving the use of medicines for physicians, nurses and other health cadres in Uganda. He was a major player in organizing and running the ‘Promoting Rational Drug Use’ course in Kampala in 1996. He was also invited to facilitate at the PBL Pharmacotherapy Course in Groningen, Holland in 1995.

Prof. Willy Anokobonggo is a clinical Pharmacologist by specialization. He worked with the Uganda Ministry of Health as a medical doctor before moving to Makerere University, Faculty of Medicine, where he currently serves as Professor of Pharmacology and Therapeutics. He was an Associate Dean in Makerere Medical School between 1990-1994 and Head of the Department of Pharmacology and Therapeutics between 1981-1990. Currently, he is the coordinator of INRUD-Uganda, conducting and supervising research activities aimed at improving the use of medicines. He has participated in organizing several regional training courses and symposia in medicines use.

Fees and Application

The course fee is US \$ 2200. This fee covers tuition, training course materials, shared accommodation, breakfast, and lunch. Those who require single room accommodation must pay extra charges (information available on request).

Participants will be provided \$20/day to cover expenses for regular dinners not provided by the organizers. Participants should plan to bring sufficient money for incidental expenses like laundry, postage, phone calls, etc. Travel and health insurance are the responsibility of the sponsoring organization.

The course fee for local participants not requiring accommodation is US \$1500. This fee covers tuition, training course materials, and lunch. It does not cover transport to and from the course, breakfast, dinner or hotel accommodations.

Participants should arrive in Kampala on August 28 or latest by 1.00pm on August 29, 2004. The organizing committee will be responsible for hotel accommodation till

10.00am of September 12, 2004. Those who want to stay longer will themselves have to pay for accommodation from then on.

Places for 35 participants (national and international) will be available. Since it is a regional course, preference will be given to participants from Africa region. Selection will be based on previous experience, interest in promoting rational use of drugs through the DTC, and ability to implement such programs in their own environment.

Bank details are as follows:

Bankdrafts should be made payable to INRUD-Uganda in US dollars.
Wire transfers can be sent to:

Standard Chartered Bank Uganda Limited
Speke Road Branch
P.O. Box 7111
Kampala, Uganda

SWIFT code: **SCBLUGKA**

Name on the account: **INRUD-Uganda.**
Account number: **870 821 181 2500**

Account holder's address:

INRUD-Uganda
Department of Pharmacology
Makerere University
PO Box 7072
Kampala, Uganda

The correspondent bank for US dollar transfers is:

Standard Charter Bank
One Madison Avenue
New York, NY 10010-3603
U.S.A.
(212) 667-0700

SWIFT code: **SCBLUS33**
ABA code: **026002561**

Payment by direct transfer is preferred.

Deadline for Application

Applications and fees are due no later than **July 25, 2004**. Due to a limit of 35 participants, applicants are encouraged to apply early.

For a copy of the application and this course flyer, please visit <http://erc.msh.org/dtc>

For further information, please send an e-mail to Dr. Paul Waako at pwaako@med.mak.ac.ug

with copies to:

Dr. Jasper Ogwal-Okeng at jogwal@utlonline.co.ug

Dr. Mohan P. Joshi at mjoshi@msh.org

Sarah Paige at spaige@msh.org

Annex 2. Request for Country Clearance

Request for Country Clearance

TO: Robert Cunnane, PHNO, USAID/Uganda
Annie Kaboggoza–Musoke, USAID/Uganda
Suzzane McQueen, USAID/Uganda

FROM: Management Sciences for Health (MSH)/Rational Pharmaceutical
Management (RPM) Plus Program, Cooperative Agreement # HRN-A-00-00-00016-00

SUBJECT: Request for Country Clearance for travel to Uganda for Mohan Joshi, Paul
Arnow, and Sarah Paige

COPY: Anthony Boni/Global HPSR/CTO RPM Plus

Douglas Keene, Director, MSH/RPM Plus

Maria Miralles, Deputy Director, MSH/RPM Plus

Michael Gabra, Program Manager for Africa, MSH/RPM Plus

Mohan Joshi, Program Manager for AMR, MSH/RPM Plus

Paul Arnow, Principal Program Officer, Infectious Diseases, MSH

Sarah Paige, Program Associate for AMR, MSH/RPM Plus

The RPM Plus Program wishes to request country clearance for proposed travel to Kampala, Uganda by Dr. Mohan Joshi, Program Manager for Antimicrobial Resistance (AMR), Dr. Paul Arnow, Principal Program Officer for Infectious Diseases, and Sarah Paige, Program Associate for AMR for the period of August 24 to September 12, 2004 for Mohan Joshi, August 30 to September 13, 2004 for Paul Arnow, and August 25 to September 27, 2004 for Sarah Paige.

Background:

Infectious diseases continue to present a serious threat to countries worldwide where scarcity of resources is complicated by lack of drug availability and inappropriate use of the available drugs. Antimicrobial resistance (AMR) develops as a result of inappropriate prescribing and use of antimicrobials. USAID-funded Rational Pharmaceutical Plus (RPM Plus) Program of Management Sciences for Health (MSH) has been working in developing countries worldwide to introduce Drug and Therapeutics Committees (DTCs) as a method of managing the selection of appropriate drugs and improving drug use. These committees will serve as a means to improve drug selection, prescribing, and use and decrease or contain the spread of antimicrobial resistance (AMR). DTCs are considered a key intervention in the WHO Global Strategy to contain antimicrobial resistance in hospitals.

DTC Training courses have been given in Bolivia, Guatemala, India, Indonesia, Jordan, Kenya, Moldova, Nepal, Nicaragua, Peru, Philippines, South Africa, Thailand, and Turkey. RPM Plus has recently developed a Training of the Trainers (TOT) Course to complement the existing DTC course. The upcoming Uganda DTC course will have the TOT component attached to it. The purpose of this additional initiative is to build in-country and regional capacities to organize and present DTC training programs and provide follow-up technical assistance.

Purpose of Proposed Visit:

The purpose of visit for Dr. Mohan Joshi, Dr. Paul Arnow, and Sarah Paige is to help coordinate and facilitate the Regional Course on Drug and Therapeutics Committees and Training of Trainers to take place in Kampala, Uganda, from August 29 to September 11, 2004.

Scope of work

Scope of work for Dr. Joshi is as follows:

- As RPM Plus DTC-TOT Activity Manager, coordinate the technical aspects and the overall management of the training course along with the Organizing Committee in Uganda
- Act as a key international facilitator for some of the DTC and TOT sessions in the course

- Participate in the field trip and help participants collect, compile, analyze and present their data
- Brief and debrief the Mission, if requested

Scope of work for Dr. Arnow is as follows:

- Act as a key international facilitator for some of the DTC and TOT sessions in the course
- Participate in the field trip and help participants collect, compile, analyze and present their data
- Brief and debrief the Mission, if requested

Scope of work for Ms. Paige is as follows:

- Assist in the organizational, administrative, and technical aspects of the training course along with the RPM Plus DTC-TOT Activity Manager and the Organizing Committee in Uganda
- Assist in the facilitation of some of the sessions in the course
- Participate in the field trip and help participants collect, compile, analyze and present their data
- Brief and debrief the Mission, if requested

Anticipated Contacts:

Mr. Robert Cunnane, PHNO, USAID/Uganda
Ms. Suzzane McQueen, USAID/Uganda
Ms. Annie Kaboggoza–Musoke, USAID/Uganda
Dr. Jasper Ogwal-Okeng, Makerere University, Kampala
Prof. Willy Anokobonggo, Makerere University, Kampala
Dr. Paul Waako, Makerere University, Kampala
Dr. Celestino Obua, Makerere University, Kampala
Mr. Martin Otewa, Ministry of Health, Uganda

Logistics:

Dr. Joshi will arrive in Kampala on August 24 and depart on September 12, 2004 with Kenya Airways, Dr. Arnow will arrive in Kampala on August 30 and depart on September 13, 2004 with American Airlines, and Ms. Paige will arrive in Kampala on August 25 and depart on September 27, 2004 with SN Brussels. Dr. Joshi, Dr. Arnow, and Ms. Paige will stay at Hotel Equatoria in Kampala (tel. 256-41-250781).

No Mission assistance is required.

Funding:

All travel will be paid for with core SO5 AMR funds.

Action:

Please inform the RPM Plus Program whether country clearance is granted for the activity to take place as proposed. Please reply via e-mail to the attention of Anthony Boni, USAID/G/PHN/HN/HPSR, e-mail address: aboni@usaid.gov , tel (202) 712-4789, fax (202) 216-3702. Please send carbon copies to Douglas Keene at dkeene@msh.org , Maria Miralles at mmiralles@msh.org , Michael Gabra at mgabra@msh.org , Mohan Joshi at mjoshi@msh.org , Paul Arnow at parnow@msh.org , Sarah Paige at spaige@msh.org , and David Smallwood at dsmallwood@msh.org .

Thank you for Mission cooperation.

Annex 3. Facilitators Profile

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Course Secretary

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Annex 4. Drug and Therapeutics Committee and Training of Trainers Program Schedule

Program Schedule			
Date	Time	Topic	Facilitator
Aug 29, 2004 (Sunday)	1:00 PM– 4:00 PM	Registration	Sarah Paige
	4:00 PM– 6:00 PM	Gallery of Experts	Mohan Joshi
	6:00 PM– 6:30 PM	Tea/Coffee Break	
	6:30 PM– 7:30 PM	Opening Ceremony	- Prof. Livingstone Luboobi, Vice Chancellor, Makerere University - Jasper Ogwal-Okeng - Paul Waako - Mohan Joshi
	7:30 PM– 9:30 PM	Cocktail and Opening Dinner	
Aug 30 (Monday)	8:30 AM– 9:10 AM	House Rules, Committee Selection and Security Briefing	Paul Waako Sarah Paige Celestino Obua
	9:10 AM– 11:00 AM	DTC Overview	David Ofori-Adjei Martin Oteba
	11:00 AM– 11:15 AM	Tea/Coffee Break	
	11:15 AM– 12:40 PM	DTC Overview (cont.)	David Ofori-Adjei Martin Oteba
	12:40 PM– 2:00 PM	Lunch	
	2:00 PM– 3:30 PM	Formulary Management	Willy Anokbonggo
	3:30 PM - 3:45 PM	Tea/Coffee Break	
	3:45 PM - 5:15 PM	Formulary Management (cont.)	Willy Anokbonggo
Aug 31 (Tuesday)	8:30 AM– 8:40AM	Evaluation and Committee Briefings	Sarah Paige and Committee Members
	8:40 AM– 11:00 AM	Assessing Drug Efficacy	David Ofori-Adjei Jasper Ogwal-Okeng

	11:00 AM-11:15 AM	Tea/Coffee Break	
	11:15 AM-12:40 PM	Assessing Drug Efficacy (cont.)	David Ofori-Adjei Jasper Ogwal-Okeng
	12:40 PM-2:00 PM	Lunch	
	2:00 PM-3:30	Assessing and Managing Drug Safety	Mohan Joshi
	3:30 PM - 3:45 PM	Tea/Coffee Break	
	3:45 PM - 5:15 PM	Assessing and Managing Drug Safety (cont.)	Mohan Joshi
Sep 01 (Wednesday)	8:30 AM-8:40AM	Evaluation and Committee Briefings	Sarah Paige and Committee Members
	8:40 AM-11:00 AM	Drug Quality	Richard Odoi-Adome
	11:00 AM-11:15 AM	Tea/Coffee Break	
	11:15 AM-12:00 PM	Drug Quality (cont.)	Richard Odoi-Adome
	12:00 PM - 1:15 PM	Lunch	
	1:15 PM-3:15 PM	Assessing Drug Cost	Paul Arnow
	3:15 PM - 3:30 PM	Tea/Coffee Break	
	3:30 PM-4:30 PM	Assessing Drug Cost (cont.)	Paul Arnow
	4.30 PM - onwards	Free Time	
September 02 (Thursday)	8:30 AM-8:40AM	Evaluation and Committee Briefings	Sarah Paige and Committee Members
	8:40 AM–11:00 AM	Identifying Drug Use Problems (part1)	David Ofori-Adjei Willy Anokbonggo
	11:00 AM-11:15 AM	Tea/Coffee Break	
	11:15 AM-12:30 PM	Identifying Drug Use Problems (part1 cont.)	David Ofori-Adjei Willy Anokbonggo
	12.30 PM–2.00 PM	Lunch	
	2:00 PM-	Identifying Drug Use	Kathy Holloway

	3:30 PM	Problems (part 2)	Richard Odoi-Adome
	3:30 PM-3:45 PM	Tea/Coffee Break	
	3:45 PM-5:30 PM	Identifying Drug Use Problems (part 2 cont.)	Kathy Holloway Richard Odoi-Adome
Sep 03 (Friday)	8:30 AM-8:40AM	Evaluation and Committee Briefings	Sarah Paige and Committee Members
	8:40 AM–11:00 AM	Why Drug Use Problems Occur	David Ofori-Adjei
	11:00 AM-11:15 AM	Tea/Coffee Break	
	11:15 AM-12:30 PM	Why Drug Use Problems Occur (cont.)	David Ofori-Adjei
	12:30 PM-2:00 PM	Lunch	
	2:00 PM-3:30 PM	Strategies to Improve Drug Use	Jasper Ogwal-Okeng Kathy Holloway
	3:30 PM-3:45 PM	Tea/Coffee Break	
	3:45 PM-5:15 PM	Strategies to Improve Drug Use (cont.)	Jasper Ogwal-Okeng Kathy Holloway
Sep 04 (Saturday)	8:30 AM-8:40AM	Evaluation and Committee Briefings	Sarah Paige and Committee Members
	8:40 AM-11:00 PM	Standard Treatment Guidelines	Paul Arnow
	11:00 AM-11:15 AM	Tea/Coffee Break	
	11:15 AM-12:00 PM	Standard Treatment Guidelines (cont.)	Paul Arnow
	12:00 PM-1:30 PM	Lunch	
	1:30 PM-3:30 PM	Drug Use Evaluation	Kathy Holloway Willy Anokbonggo
	3:30 PM-3:45 PM	Tea/Coffee Break	
	3:45 PM-4:45 PM	Drug Use Evaluation (cont.)	Kathy Holloway Willy Anokbonggo
Sep 05 (Sunday)	Off (Day Trip/Sightseeing)		

Sep 06 (Monday)	8:30 AM-8:40AM	Evaluation and Committee Briefings	Sarah Paige and Committee Members
	8:40 AM-11:00 PM	Infection Control	Paul Arnow
	11:00 AM-11:15 AM	Tea/Coffee Break	
	11:15 AM - 12:00 PM	Getting Started	Kathy Holloway
	12:00 PM-1:30 PM	Lunch	
	1:30 PM-3:30 PM	Getting Started (cont.)	Kathy Holloway
	3:30 PM-3:45 PM	Tea/Coffee Break	
	3: 45 PM-4:15 PM	Getting Started (cont.)	Kathy Holloway
	4:15 PM-5:15 PM	Field Study Orientation	Kathy Holloway, Mohan Joshi, Paul Arnow, David Ofori-Adjei, Willy Anokbonggo, Richard Odoi-Adome, Paul Waako, Celestino Obua, Sarah Paige, Winnie Tumwikirize
Sep 07 (Tuesday)	8:00AM-6:00 PM	Field Study	Kathy Holloway, Mohan Joshi, Paul Arnow, David Ofori-Adjei, Willy Anokbonggo, Richard Odoi-Adome, Paul Waako, Celestino Obua, Sarah Paige, Winnie Tumwikirize
Sep 08 (Wednesday)	8:30 AM-8:40AM	Evaluation and Committee Briefings	Sarah Paige and Committee Members
	8:40 AM - 11:00 AM	Field Study Presentations	Kathy Holloway
	11:00 AM-11:15 AM	Tea/Coffee Break	
	11:15 AM-11:30 AM	Field Study Presentations (cont.)	Kathy Holloway
	11:30 AM - 12:30 PM	Workplans	Mohan Joshi Paul Arnow
	12:30 PM-2:00 PM	Lunch	

	2:00 PM - 5:00 PM	Workplans	Mohan Joshi Paul Arnaw
	3:30 PM- 3:45 PM	Tea/Coffee Break	
	3:30 PM- 5:15 PM	Workplans (cont.)	Mohan Joshi Paul Arnaw
Training of Trainers Schedule			
Sep 09 (Thursday)	8:30 AM- 8:40 AM	Evaluation and Committee Briefings	Sarah Paige and Committee Members
	8:40 AM- 8:50 AM	Self-assessment of Competency as a Trainer/Facilitator	Mohan Joshi
	8:50 AM- 9:10 AM	Preferred Learning Styles	Paul Arnaw
	9:10 AM- 9:40 AM	Positive & Negative Learning Experiences	Mohan Joshi
	9:40 AM- 10:20AM	How Adults Learn	Mohan Joshi
	10:20AM- 10:40AM	Tea/Coffee Break	
	10:40AM- 11:00AM	Roles of the Teacher	Paul Arnaw
	11:00AM- 11:30AM	Communication Skills	Paul Arnaw
	11:30AM- 12:30 PM	Teaching and Learning Methods	Mohan Joshi
	12:30 PM- 2:00 PM	Lunch	
	2:00 PM- 2:30 PM	Teaching and Learning Methods (cont.)	Mohan Joshi
	2:30 PM- 3:15 PM	Teaching Learning Methods - Illustrative Exercises (role play)	Mohan Joshi Paul Arnaw
	3:15 PM- 4:00 PM	Teaching learning methods - Illustrative Exercises (case study)	Mohan Joshi Paul Arnaw
	4:00 PM- 4:20 PM	Tea/Coffee Break	
	4:20 PM- 5:00 PM	Teaching Learning Methods - Illustrative Exercises (demonstration)	Mohan Joshi Paul Arnaw
	5:00 PM- 5:10 PM	Summary	Mohan Joshi

Sep 10 (Friday)	8:30 AM- 10:00 AM	Setting Objectives (with exercise)	Mohan Joshi
	10:00AM- 10:30 AM	Tea/Coffee Break	
	10:30AM- 11:00AM	Presentation Techniques	Paul Arnow
	11:00AM- 11:10AM	Briefing on How to Prepare Facilitation Exercise	Mohan Joshi
	11:10AM- 12:30PM	Preparation for Facilitation Exercise	Mohan Joshi Paul Arnow
	12:30PM - 2:00 PM	Lunch	
	2:00 PM- 3:00 PM	Preparation for Facilitation Exercise (continued)	Mohan Joshi Paul Arnow
	3:00 PM- 4:00 PM	Facilitation Exercise	Mohan Joshi Paul Arnow
	4:00 PM- 4:30 PM	Tea/Coffee Break	
	4:30 PM- 6:00 PM	Certificate Distribution and Remarks	Prof. Walker, WHO Representative Kodwo Lindsay Caroline Yeta Paul Waako Mohan Joshi Paul Arnow
Sep 11 (Saturday)	8:30 AM- 10:00 AM	Facilitation Exercise (continued)	Mohan Joshi, Paul Arnow,
	10:00 AM- 10:30 AM	Post-TOT self- assessment	Mohan Joshi
	10:30 AM- 11:00 AM	Tea/Coffee Break	
	11:00 AM- 12:45 PM	Workplan and TOT Course Evaluation	Mohan Joshi, Paul Arnow, Sarah Paige
	12:45 PM- 1:00 PM	Wrap-up and Closing	Mohan Joshi
	1:00 PM- 2:30 PM	Lunch	

Annex 5. Field Visit Guidelines Sheet

DTC – TOT Course, Kampala, Uganda
September 07, 2004

In the morning you will visit a hospital for field visit. At the hospital, please do the following:

1. After introducing yourself to the hospital administration, meet with the Chief Pharmacist and/or Chairperson/Secretary of the hospital's Drug and Therapeutics Committee.
 - If a DTC exists, obtain a description of the DTC composition and functions. (If no DTC find out who would be responsible for decisions concerning formulary list and procurement).
 - Who are the members of the DTC?
 - How often does the DTC meet?
 - What activities does the DTC carry out?
 - How is the formulary list updated?
 - What have been its achievements in 2003-2004?
 - Determine whether formal agendas are prepared for the meetings.
 - Ask to see the agendas on file.
 - Request permission to review the minutes of the past one or two meetings.
 - Determine what topics have been discussed.
 2. If the DTC is charged with updating the hospital drug formulary list, ask for a copy of the drug evaluation report.
 - What is the format and content of the report?
- (Note: Plan to spend a maximum of 15 minutes for questions 1 and 2.)
3. Ask the DTC to see any drug studies that are intended to identify drug use problems in the hospital. These might include:
 - ABC analysis
 - Drug Use Evaluation or Drug Utilization Review studies
 - Drug indicator studies
 - Qualitative studies to identify why drug use problems occur
 4. Inquire about interventions to improve drug use. Do they utilize any education programs to improve drug use, standard treatment guidelines or protocols, drug use evaluation, regulatory interventions, or others?

5. Ask for a copy of the hospital drug formulary list.
 - How many drugs are on the list?
 - How many different chemical entities are there?
 - Prepare a list of all third generation cephalosporins and non-steroidal antiinflammatory drugs (NSAIDs)
6. Ask the Chief Pharmacist to provide the following information:
 - Unit price (acquisition price) of each drug in the following therapeutic categories: (1) third generation cephalosporins and (2) NSAIDs (get information for each drug product - for example, each brand of the same drug)
 - Quantities of each drug that were consumed for the past 12 months (each brand of the same drug, if possible)
 - Total of **all** drug expenditures for the previous 12 months.
7. Ask the Chief Pharmacist the following questions:
 - Is there a drug information center?
 - Does the drug information center or pharmacy department produce a newsletter or drug bulletin? What information does it provide?
 - What drug information resources are available for the DTC?
 - Reference texts (for example, Martindale, Meyler's Side Effects of Drugs, USP DI, AHFS Drug Information, etc.)
 - Drug bulletins (for example, The Medical Letter, Drug and Therapeutics Bulletin, national drug bulletin)
 - Journals (for example, Annals of Pharmacotherapy, Journal of the American Society of Health-System Pharmacists, Drugs)
8. Review 15 charts of in-patients (from medical records) that have been prescribed ciprofloxacin. Review these charts and collect the data that is listed on your DUE form.
9. Review 15 charts of patients (from medical records) with the diagnosis of Cesarean Section delivery. Collect and record the data on the Cesarean Section DUE form.

On Tuesday afternoon, you will analyze the collected information and prepare a 10-15 minute presentation for Wednesday morning. The presentation should include:

- A brief presentation on the status of the DTC in the hospital that you visited.
- An analysis of the hospital drug evaluation process for additions to the formulary and report.
- An analysis of the two therapeutic groups utilizing data you collected at the hospitals.
- ABC analysis of all formulary items (if possible).
- Analysis of the charts reviewed by your group for the ciprofloxacin DUE and Cesarean Section antibiotic prophylaxis DUE form (appropriate drug, dose, duration, timing and cost saving if appropriate drugs are used.). Compare the drugs used in the chart reviews to the standard treatment guideline recommendation and to the DUE developed during the course.
- What potential problems have you identified?
- What would you recommend to do about the problems?

Important Note:

Facilitators are only there as observers, do not rely on them for moving the process.

Please invite appropriate hospital administration and staff to the presentations on Wednesday.

Annex 6. Course Evaluation by Participants (DTC Component)

Individual session rating:

DTC Session	Average Score (Scale 1-9)
1. DTC Overview	7.9
2. Formulary Management	7.7
3. Assessing Drug Efficacy	7.7
4. Assessing and Managing Safety	8.3
5. Assessing Quality	7.4
6. Assessing Cost	8.3
7A. Identifying Drug Use Problems (I)	8.4
7B. Identifying Drug Use Problems (II)	8.3
8. Why Drug Use Problems Occur	8.5
9. Strategies to Improve Drug Use	8.4
10. Standard Treatment Guidelines	8.5
11. Drug Use Evaluation	8.1
12. Infection Control	8.3
13. Getting Started	8.3
14. Field Study Presentations	8.3

Overall DTC Training Course Evaluation

(scale of 1-9)

Content:

The objectives were clearly defined at the beginning of the training course	8.2
The defined objectives were achieved by the end of the training course:	8.2
The amount of material covered during the course was appropriate:	8.1
The depth of coverage of the material in the training course was appropriate:	8.4
How useful will the knowledge and skills obtained in this course be to my work?	8.4

Facilitators/Trainers

Overall, I would say the quality of the facilitation was:	8.1
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Overall Opinion

This course was valuable and I will recommend it to my colleagues:	yes	32
	no	1

Overall Satisfaction with Training Logistics

The pace of the course:	7.7
The style and format of the sessions:	8
The instructional materials:	8.1
The length of the training course:	7.5

Overall Score **8.1**

Recommendations

More practical exercises, fewer lectures, provide laptops, shorten course length, facilitators conversant with topics, more exercises on DUE, ABC, VEN, more examples on technical aspects of DTC, conduct individual tests, participants must be well selected, course must be tailored to suit limited resource situations, use more international facilitators, some sessions need more time, limit training for half day on Saturday, create a network for following how this training course will be improved in each country represented, organize a meeting for 2 days in 12 months for evaluation of workplans, send a summary about the training to participants beforehand, less study material, send course materials to participants beforehand for orientation, lengthen the course to 3 weeks, committees should randomly determine sitting arrangement to ensure mixing of participants with diverse experience, bigger allowance, increase technical standards, have working lunches

Positive Feedback

very good, course was inspiring, enjoyed the company of participants, the first part of the course was very good, 2 weeks of good learning, training was satisfactory and will be beneficial in improving drug use in my hospital and country, it was extremely interesting to meet people from different background and exchange experiences

Annex 7. Course Evaluation by Participants (Training of Trainers Component)

Course Content- Individual Sessions	Score (on a scale of 1-5)
Overview	4
Preferred Learning Style	4.3
Positive & Negative Learning Experiences	4.1
How Adults Learn	4.2
Roles of the Teacher	4.2
Communication Skills	4.1
Teaching & Learning Methods	4.2
Setting SMART Objectives	4.5
Presentation Techniques	4.4
Facilitation DTC Trainings	4.2
<hr/>	
Overall Score	4.2

Further Reflections:

Participants were tired by the time TOT began, so it should be made livelier with incentives (prizes) for each activity- especially in the afternoons. Most people have not done facilitation/training so the course objective should be to identify those people and propel them to a level where they have the basic presentation/facilitation skills necessary. Allow practice of each lesson before another is started, too many lessons in one day, more participation. Need to address personality weaknesses like stage fright and low self-confidence. Could have added practical exercises for each type of teaching/ learning methods, more practical relevant parts. The length of the TOT should be increased to improve on the objectives, allow for more time to prepare activities, not rush through ideas. Scenarios for critiquing various aspects of learning the KSA should have emphasized participant insight more. The TOT content was good but the time allotted was not, more time for presentation techniques

Annex 8. Participants Profile

Name of Participant	Address	Email
Achen Margaret - Pharmacy technician - 15 years of private practice in Kampala, Uganda. - 4 years in Northern Uganda at a Health Center	Procurement and Drug Selection Aboke Health Centre IV, Kole HSD Apac District, Uganda	Maogwal2004@yahoo.co.uk
Ahmed Mohammed Elamin - Pharmacist - 9 years as hospital Pharmacist Currently Senior Pharmacist Medan teaching Hospital	Gezeria State – Ministry of Health, Department of Pharmacy Medani Teaching Hospital Medani, Sudan	Alia3332003@yahoo.com
Bampire Mbonigaba Jane -Pharmacy Technician & Social Worker - 13 years working as District Drug Inspector in Kabale District	District Drug Inspector District Director of Health Service P.O. Box 5 Kabale - Uganda	mbonigabajane@yahoo.co.uk
Barbara Matengu - Pharmacologist, M.P.H on the way - German volunteer in Namibia (M.O.H)	PO. Box 1198 Tsumeb Namibia	matengu@iway.na
Dr. Ben Boateng - Medical Doctor - 18 years in medical practice and teaching	Medical Director & Internist Holy Family Hospital Tecniman District Box 36, Tecniman, Ghana	
Caroline Munyimba Yeta - Pharmacist - - Masters in clinical pharmacy - Manufacturing pacentrals, solid forms - Central board of health-selection, procurement, distribution	Pharmacy Specialist Central Board of Health P.O. Box 32588 Ndeke House, Lusaka Zambia	clweendo@yahoo.com
Dr. Chanda Kulkarni - Medical Doctor	Prof. & Head, Pharmacology and Clinical Pharmacology St. John's Medical College Bangalore: 560034 INDIA	dr_chanda_k@hathway.com
Dr. Ddumba Edward	C/o Department of Medicine	Eddumba2000@yahoo.com

<ul style="list-style-type: none"> - Physician/Neurologist - Graduate in the class of 1978 University of Mysore-South India. - Trained as a physician in internal medicine;- D.I.P in clinical neurology D.I.P in Health management services. 	<p>Mulago Hospital P.O. Box 7051 Kampala, Uganda</p>	
<p>Dr. Egesie Umezuruike Gideon</p> <ul style="list-style-type: none"> - Medical Doctor - 14 years of practice, teaching-Nigeria 	<p>Department of Human Physiology Faculty of Medical Sciences University of JOS JOS-Nigeria</p>	<p>egesieu@unijos.edu.ng</p>
<p>Dr. Erisa Owino</p> <ul style="list-style-type: none"> - Pharmacist. - Lecturer of pharmacy at Makerere for 11 years. 	<p>Department of Pharmacy Faculty of Medicine Makerere University, P.O. Box 7072, Kampala, Uganda</p>	<p>owino@yahoo.com</p>
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Annex 9. DTC TOT Course Photos





